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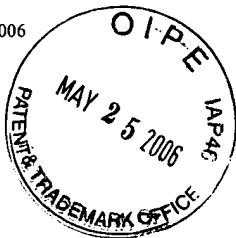
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,927	10/22/2003	Scott Gerald Allam	B55-0010	1612

7590

05/15/2006

James E. Fay  
1096 Reed Street  
Neenah, WI 54956



EXAMINER

QUELER, ADAM M

ART UNIT PAPER NUMBER

2178

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/691,927

Applicant(s)

ALLAM ET AL.

Examiner

Adam M. Queler

Art Unit

2178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. This action is responsive to communications: Application filed October 22, 2003, and Election filed 04/22/2006.

2. Claims 1-10 are pending in the case. Claim 1 is an independent claims.

#### *Election/Restrictions*

3. Applicant's election without traverse of group I in the reply filed on 4/22/2006 is acknowledged.

#### *Double Patenting*

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 09/738,598 in view of Rivette. The co-pending claims recite all the elements of the instant claims except the navigational tool. Rivette teaches a navigational tool (Fig. 14, 165). It would

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have been obvious to one of ordinary skill in the art at the time of the invention to use a navigational tool as it would have enabled the user to more easily navigate.

This is a provisional obviousness-type double patenting rejection.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-10 rejected under 35 U.S.C. 102(e) as being anticipated by Allam (US 20020116420A1).**

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

**Regarding independent claim(s) 1**, Allam teaches a method for viewing electronic information comprising the steps of: displaying in a first window a physical page from an electronic document containing information from a predefined page format, wherein the electronic document comprises representations of at least one physical page, and a visual reference

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emphasizing information on the at least one physical page, extracting the information emphasized by the visual reference on the at least one physical page (claim 1), presenting the extracted information in a second window Fig. 4 and presenting a navigation tool in a third window (Fig. 6).

**Regarding dependent claim(s) 2**, Allam teaches wherein the physical page is represented in an electronic page view (claim 2).

**Regarding dependent claim 3**, Allam teaches the physical page is represented as an icon including a thumbnail of the physical page (claim 3).

**Regarding dependent claim 4**, Allam teaches the first and second window are the same window (claim 4).

**Regarding dependent claim 5**, Allam teaches the second window is an enhanced interactive window including a thumbnail image of a physical page, a graphic image of a physical page, text, free flowing text, icons, hyperlinks, menus, and control elements (claim 5).

**Regarding dependent claim 6**, Allam teaches the navigation tool presents an extraction of content and annotations (para. 46).

**Regarding dependent claim 7**, Allam teaches the step of selecting further comprises the step of enclosing the annotation with a box (claim 7.)

**Regarding dependent claim 8**, Allam teaches the second window may be placed in various positions relative to the first window, including on top of the first window, adjacent to the first window, and partially covering the first window (claim 8).

**Regarding dependent claim 9**, Allam teaches the second window further comprises a control panel for managing the extracted information (claim 9).

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**Regarding dependent claim 10**, Allam teaches the extracted information may be viewed simultaneously in a multiple of enhanced interactive windows (claim 10).

**8. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Rivette et al. (US006018749A).**

**Regarding independent claims 1**, Rivette teaches displaying in a first window a physical page (Fig. 59). The window surrounding the text is the visual reference, which is disposed on the physical page. Rivette teaches extracting the information on the physical page (col. 19, line 65 – col. 21, line 11). Rivette teaches presenting the extracted information in a second window and that the information is free-flowing (Fig. 59). Rivette teaches a navigational tool (Fig. 14, 165).

**Regarding dependent claim 2**, Rivette teaches the physical page is represented in an electronic page view (Fig. 59).

**Regarding dependent claim 3**, Rivette discloses that the physical page is represented as an icon including a thumbnail of the physical page (Fig. 65).

**Regarding dependent claim 4**, Rivette discloses the first and second windows are the same window (Fig. 59, Patentworks window).

**Regarding dependent claim 6**, Rivette discloses the step of extracting information further comprises the step of selecting a markup annotation from the physical page and converting the information contained in the selected markup annotation to information for use in the second window (col. 41, ll. 18-44).

**Regarding dependent claim 7**, Rivette discloses the step of selecting further comprises the step of enclosing the markup annotation with a box (Fig. 61).

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**Regarding dependent claim 9**, Rivette discloses the second window further comprises a control panel for managing the extracted information (col. 33, ll. 64-67.).

**Regarding dependent claim 10**, Rivette discloses the extracted information may be viewed simultaneously in a multiple of enhanced interactive windows (col. 37, ll. 39-55).

***Conclusion***

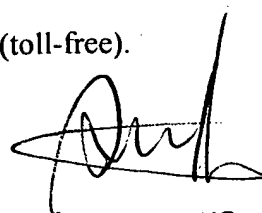
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam M. Queler whose telephone number is (571) 272-4140. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AQ

  
STEPHEN HONG  
SUPERVISORY PATENT EXAMINER

<b>Notice of References Cited</b>	Application/Control No. 10/691,927		Applicant(s)/Patent Under Reexamination ALLAM ET AL.	
	Examiner Adam M. Queler		Art Unit 2178	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,146,552 A	09-1992	Cassoria et al.	715/512
*	B	US-5,241,671 A	08-1993	Reed et al.	707/104.1
*	C	US-5,341,466 A	08-1994	Perlin et al.	345/668
*	D	US-5,430,808 A	07-1995	Baird et al.	382/176
*	E	US-5,634,064 A	05-1997	Warnock et al.	715/513
*	F	US-5,806,079 A	09-1998	Rivette et al.	715/512
*	G	US-5,933,843 A	08-1999	Takai, Yasuyuki	715/526
*	H	US-5,960,448 A	09-1999	Reichek et al.	715/526
*	I	US-6,018,749 A	01-2000	Rivette et al.	715/525
*	J	US-6,400,845 B1	06-2002	Volino, Gary	382/176
*	K	US-2002/0116420 A1	08-2002	Allam et al.	707/526
*	L	US-2004/0212835 A1	10-2004	Neff et al.	358/001.18
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	"Open eBook Authoring Group Forms 'OEB Forum'" from www.cbooknct.com, pgs. 1-4, January 14, 2000
	V	"Open eBook Forum" from www.openebook.org, pgs. 1-4, September 12, 2000
	W	"Electronic textbooks: the next campus fad" from www.cnn.com/2000/books/news, ages 1-3, August 17, 2000
	X	"Book publishers had better turn the e-page" from www.patagon.com, pgs. 1-4, August 25, 2000

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.





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## BOOK PUBLISHERS HAD BETTER TURN THE E-PAGE

by Ernani Assuncao

Napster and the Record Industry Association of America (RIIA) should listen to this piece of advice: try to make as much money as you possibly can but don't try to do it alone. Further more: share your ideas and make sure to offer something good. We, the customers, deserve it.

While the music swapping site is still trying to figure out a way to make some profit out of its 20 million users, and record companies refuse to go with the technology development flow, publishing giants are proving to be smarter than all, fighting the war against e-book piracy even before it starts.

Of course, everything becomes a lot easier when you get appropriate help. Conveniently, Microsoft (Nasdaq:MSFT) has developed new software that enables readers to get books delivered instantly over the Internet.

Recently, the leading software manufacturer announced significant inroads into the e-books sector. First, the company teamed up with online bookseller Barnesandnoble.com (Nasdaq:BNBN) to open the first major online store selling digital books.

The news made investors go for Barnesandnoble.com shares at a furious rate pushing its price up by 38.3 percent. The news that BNBN was launching a technical feature that is not yet offered by their biggest rival Amazon.com (Nasdaq:AMZN) came just in time for its shareholders. The company needed a



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boost badly.

Everything became clear the following day when Microsoft introduced its newest Microsoft Reader, in a move publishers are calling a turning point for the book industry. The free software couldn't come at a better time: as writers, publishers, booksellers and readers are striving to map out the unknown territory of e-books.

Earlier this year, writer Stephen King demonstrated the great power of the Internet by having about 400,000 readers electronically download his "novella" *Riding the Bullet* for \$2.50 a piece.

But while most of the free download sites like Mr. King's offer their content using the PDF format - which is static and does not scale well-, Microsoft is betting on something much more user-friendly and full of features.

Reader lets you highlight, bookmark, make notes, find, look up definitions, and even save text, among other things. You can also change the font size and use the backlight to read better in the dark. The company promises links to author bios, notes, and even movie trailers in the near future.

Reader also tries to give the reader that feel of reality with page layouts that resemble a paper book. Taking many by surprise, there is no scrolling available and the pages turn just like a book's at the simple touch of a button.

Microsoft says that they will get a very small royalty from the sale of electronic books.

But the important highlight of this development was the e-book piracy initiative that Microsoft launched in conjunction with the Association of American Publishers. According to Microsoft, the idea is to head off e-book hacking combining encryption with enforcement and education.

One drawback is, however, there aren't many

people out there feeling optimistic about the future of e-books.

Some don't see themselves downloading and printing a file, others don't agree with the idea of reading a 500-page book on a handheld 7-inch screen. Some tend to believe that this is a market for college textbooks only. Many questioned the use of the format even for college publications on the grounds that relying on batteries could prove tricky, especially when working to tight exam deadlines.

But Microsoft and the publishing industry obviously believe in the service. They count on the fact that, eventually, a handheld device that looks, feels and reads like a book will prove successful — both for work and for pleasure.

Big publishers such as Bertelsmann's Random House and Viacom (NYSE:VIA)'s Simon and Schuster are finding plenty reason to abandon paper in favor of bites, at least for some types of work. The two companies highly believe that Microsoft's new technology will help them build an electronic readership.

That's a sea change for an industry that not that long ago viewed e-publishing startups as quaint sites that gave frustrated novelists a place to disseminate their work. Many have much to thank Stephen King for. Even using basic technology that kept crashing the servers, several thousand of people managed to download his first e-work.

Many think that technology cannot beat the pleasure and feeling of intimacy involving visiting the neighborhood bookstore. After all, looking at the shelves full of paperbacks, getting a general idea of the book through the cover, and browsing a page or two to get a feel for the work before purchasing, makes e-books overrated for real book lovers.

Publishers are taking their cue from writers who tried to fight the advent of PCs by using

typewriters but finally caved in to technology. They are counting on this to happen.

Ernani Assuncao writes about technology and the Internet from New York City. He does not own stock, bonds or other securities issued MSFT, BNBK or VIA.

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## Electronic textbooks: the next campus fad

August 17, 2000

Web posted at: 4:41 PM EDT (2041 GMT)

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NEW YORK (AP) -- For more than 20 years Dr. Sanford Berg has taught "Managerial Economics," a required business course at the University of Florida. He will do so again this fall -- with one great difference.

"Students will have the choice of using the traditional textbook or downloading an electronic version on their laptops," Berg said Wednesday. "The technology is still young, but we feel it's important to be out front on this kind of thing."

Most people think of Stephen King's entry into online publishing when they think of e-books, but many publishers and professors believe college texts are the more promising market. E-texts are cheaper (the cost is comparable to a used book) and easier to update than the paper versions.

And while John Updike has written that nothing can ever replace the aesthetic pleasure of holding a bound paper novel, it's hard to imagine students feeling the same way about a backpack overloaded with school books.

"I think this is going to happen faster in education than in anywhere else," said Susan Driscoll, president of Worth Publishers, which this fall will release several textbook titles in electronic form.

"Students do everything on laptops these days so I definitely think electronic books are a trend that's going to expand," said Dr. Steven Pinker, a professor of psychology at the Massachusetts Institute of Technology who plans on using e-books next year.

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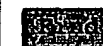
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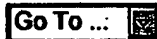
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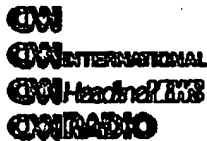
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## WEB SERVICES:

## Overcoming skepticism

Over the next few months, publishers will be meeting with authors, professors and college officials to work out agreements for the upcoming year. This week, WizeUp Digital Textbooks announced that more than 75 titles would be available for this fall, with Harvard, Georgetown and Ohio State among the schools using the books.

"There was some skepticism two years ago, but now teachers are saying, 'Finally. This is what we've been asking for for some time,'" said David Gray, CEO of WizeUp, which expects to triple its electronic offerings by next year.

Few believe e-books will replace paper texts on campus, and issues common to electronic publishing still need to be resolved: royalty payments to authors, the awkwardness of reading a book off a computer screen and making sure students can't simply download materials to each other.

But the desire for e-textbooks is apparently even stronger than the industry's ability to produce them. Pinker and other professors say they would be offering the electronic version now if only the books were ready.

"A year ago, I offered the textbook in both formats but the next time I have the chance I'm going to go the whole hog and just use an electronic text," said Darryl Poole, an associate professor of sociology at Farmville, Virginia-based Longwood College.

## Updated yearly

Flexibility is the quality professors mention most. While the traditional college textbook is updated once every few years, e-books can be updated every year, or even during the semester. The electronic format also allows for links to newspaper articles and other supplementary texts and for audio and visual aids.

"I was talking to a textbook publisher about having an audio feed attached to a math problem," said Julie Greenblatt, vice president of business development at Versaware Inc., an e-publisher. "Instead of just having the teacher walk you through the problem, a narrator walks you through and uses visuals to illustrate."

"The text is no longer frozen on the page," Berg said. "You click the screen and get a five-minute talk from the president of the Ford Motor Company or read an article about the latest on the Microsoft case."

"E-books will change the way classes are taught because students will have so much more information," he said. "They make the professor more a guide than a pontificator, which professors should never be anyway. They're going to put an awful lot of responsibility on the students."

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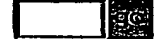
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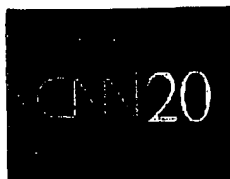
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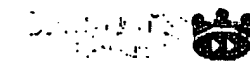
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## Open eBook Frequently Asked Questions (OEB FAQ)

Dorothea Salo  
Originally posted Tue Mar 7, '00  
Updated Thu Apr 27, '00

Dorothea Salo has updated this Frequently-Asked-Questions list for the Open eBook (OEB) Publication Structure (a set of rules for coding eBook data maintained by the Open eBook Forum). Dorothea is an electronic publishing specialist at Impressions Book and Journal Services of Madison, Wisconsin.

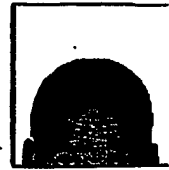
This version of the OEB Frequently Asked Questions was updated April 26, 2000.

For more background about the creation of this FAQ see ["Building the Open eBook FAQ: An Interview with Dorothea Salo."](#)

## eBook Technical FAQ

by Dorothea Salo, Electronic Publishing Specialist, Impressions Book and Journal Services

- About this FAQ
- Definitions
  - What is XML?
  - What is a DTD?
  - What is OEB?
  - What is PDI?
  - What is CSS, and what does it have to do with eBooks?
  - What is PNG? Why doesn't the OEB Publication Structure support the GIF image file format, when it is so popular on the World Wide Web?
  - What is Unicode, and what does it have to do with eBooks? How is Unicode different from ASCII?
- PDI and OEB
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## **Section 0: About This FAQ**

This FAQ was compiled by Dorothea Salo, Electronic Publishing Specialist at Impressions Book and Journal Services.

Other contributors to this FAQ include: David Ornstein (CTO, NuvoMedia), Gavin Inglis, Clay White (Manuscriptlink), Aaron Sakovich, Craig Lebakken, and Bill Kasdorf (President, Impressions Book and Journal Services). Any remaining errors or infelicities are the sole responsibility of Dorothea Salo.

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reading the Open eBook Publication Structure. Many features this FAQ mentions are more fully explained there.

## Section 1: Definitions

### What is XML?

The Extensible Markup Language (XML) is a specification created by the World Wide Web Consortium (often abbreviated W3C), the same body that maintains and develops the HTML (now recast as XHTML) markup standard used on the World Wide Web.

XML is a "metalanguage," a standardized way to create descriptions of text data that can be embedded in the texts themselves. Using XML, one can describe any sort of text data, from a grocery list to an encyclopedia.

This is a significant departure from the usual approach of a word-processing or page-layout program. These endeavor to make text intelligible to human readers using visual cues such as fonts and font size, indentation, and placement on a page or screen. Humans are accustomed to these cues and react well to them, but they have well-known drawbacks:

- Computers do not understand what these formatting conventions mean to a human, even though computer programs can produce them. Visual cues are not a good foundation for making computers react in a specific way to different types of text.
- There are many more distinctions possible in texts than there are visual cues available to capture them. Italic type, for example, is commonly used for emphasis, foreign or unfamiliar terminology, genus-species names, book titles, and many other things that it is often useful to tell apart (e.g., to create a glossary of unfamiliar terms without also capturing book titles).
- Conversely, a given distinction may be represented by more than one visual cue: e.g. emphasis can be shown by italics, boldface, or underlining.
- Visual cues are "flat," offering even humans (never mind computers) relatively few hints about the underlying structure of a document. XML allows for complex hierarchical structures to help ensure that a document belonging to a particular *type* of



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documents is logically and structurally consistent with the other documents of that type.

Where a page-layout program might use italics, then, an XML-based description of a particular type of text could use any number of distinctions; one can call a title a title, a foreign term a foreign term, and so on. With the use of stylesheet languages such as the Cascading Stylesheet Specification (CSS), these distinctions can be given visual distinctiveness as well, or, if desired, can be left "behind the scenes" to enrich the text for purposes of computer-aided searching or analysis without getting in the reader's way.

It is worth remembering that XML provides the tools to create text descriptions; it does not represent a closed universe of text descriptions from which to choose. Thus, while XML can be made to describe almost any sort of text, how accurate or useful the description is depends on those who create the description and those who use it to describe each text.

XML parsers only react to the structure of a document and the basic type of data contained therein. It is quite possible for the markup of a document, whether done by human or computer, to use tags in a manner inconsistent with their intended use. Assuming that foreign terms and emphasis can appear in the same places within a text, XML cannot prevent the description of a foreign term as emphasis; it can only offer the tools to differentiate one from the other.

### **What is a DTD?**

A Document Type Definition (DTD) is a document that describes the XML structure of a particular type of text:

- the "character entities" that represent special characters in the text,
- the "elements" that constitute the text,
- the "attributes" that describe those elements, and
- where and how often elements may appear.

DTDs are written in a special syntax, although the W3C is working on a method of structure description (the "schema language") that would itself be written in XML.

It is not necessary to be able to read or write a



DTD in order to code eBooks, although it can be helpful, particularly in the creation of Extended OEB Documents.

### **What is OEB?**

The Open eBook Publication Structure provides a set of rules for coding eBook data and for making readers that handle coded eBook data appropriately. The specification is maintained by the Open eBook Forum, a group of reader manufacturers, publishers, computer hardware and software specialists, and text markup specialists. It is not owned, written, or controlled by any one person or company, and is open to anyone's use.

It currently consists of two XML DTDs (one for Basic OEB Documents, and one for the OEB package file), a list of allowed Cascading Stylesheet Specification (CSS) mechanisms, a list of character entities representing special characters that readers must display correctly in order to be OEB-compliant, and an explanation of coding practice and compliance requirements.

### **What is PDF?**

Portable Document Format (PDF) is a page description file format created and controlled by Adobe Systems Incorporated. PDF describes quite precisely the visual appearance of a document on a page, including fonts and special characters, images, and layout. Thus, instead of using tags that produce various formats in various contexts, PDF keeps the design of a page fixed and communicates its structure through the familiar visual cues mentioned above.

Keep in mind that a PDF created from a file for a specific print format will retain the appearance of that format: PDFs of letter-sized pages are best viewed as letter-sized pages; they don't work very well on small screens. However, if the viewing medium is scaled appropriately for the pages being viewed, or if the pages have been reformatted to fit the viewing medium, PDF can be an attractive alternative. Adobe is also implementing the inclusion of linking and structural information.

### **What is CSS, and what does it have to do with eBooks?**

The Cascading Stylesheet Specification (CSS) represents a way to provide layout and display information for tagged text. Designed for the

World Wide Web, CSS is also employed by the Open eBook Publication Structure.

Two sets of CSS specifications (known generally as CSS1 and CSS2) now exist for the World Wide Web. The OEB Publication Structure has chosen selected segments of each CSS specification, and has created a few segments of its own (e.g. for the coding of running heads).

**What is PNG? Why doesn't the OEB Publication Structure support the GIF image file format, when it is so popular on the World Wide Web?**

The PNG image file format has been developed by the World Wide Web Consortium (W3C) as an open replacement for the GIF format.

Unisys Corporation holds patents on the GIF format, and in recent years has chosen to demand royalties from some web page designers and hosts who use the format. In order to avoid legal difficulties between Unisys and eBook creators, the OEB Publication Structure does not require or recommend support of the GIF format. This does not mean that eBook reader manufacturers cannot choose to support GIFs (although in practice, none do); it does mean that to be OEB-compliant, readers must support the PNG format, which is open to anyone's use without patent worries.

**What is Unicode, and what does it have to do with eBooks? How is Unicode different from ASCII?**

ASCII refers to a near-universal agreement on how to encode letters, numbers, and symbols (such as those you type on your keyboard) in the binary format that computers understand. Unfortunately, ASCII is limited to only 256 characters, which is utterly inadequate for the variety of language and technical symbols used in the world. (This inadequacy is the reason for the use of "character entities," short codes that begin with an ampersand and end with a semicolon and represent non-ASCII characters, in SGML, HTML, and XML.) The Unicode Consortium is responsible for another system that will enable computers to understand tens of thousands of characters.

XML has been designed to work natively with Unicode, and the Open eBook Publication Structure reflects that. Unfortunately, there is a difference between a computing device

understanding that a character is part of Unicode and that device being able to display that character on a screen. The Open eBook Publication Structure requires that compliant eBook reading systems understand when they have run into a Unicode character, but it does *not* require that the systems display all Unicode characters correctly (though, certainly, reading systems may choose to implement many of them). Instead, a reading system may signal to the user that it has run into a Unicode character it does not understand (by displaying a question mark or other symbol).

## Section 2: PDF and OEB

### Is OEB cross-platform? Is PDF?

Nothing in the OEB Publication Structure requires or promotes the use of one computer platform or operating system over another. Since the specification is open, anyone can program an OEB-compliant reading system for any platform, assuming sufficient computing power to handle the tasks involved. The same is true for authoring and conversion tools; anyone with the requisite skills can create them for any computing platform.

PDF was originally designed as a cross-platform language. Since PDF is a proprietary format owned by Adobe, however, only Adobe can guarantee cross-platform availability and reliability, although some third-party Acrobat and PDF products do exist. In fact, although Acrobat Reader, the software Adobe offers for reading PDFs, works on Macintosh, Windows, and some UNIX platforms, several other platforms in use today (e.g. Palm, BeOS, many varieties of UNIX) cannot run it. (A company called Ansyr

- Technologies has a PDF reader out for Windows CE, and is developing one for the Palm, however.) The situation with Acrobat itself (that is, PDF authoring software) is even worse; Acrobat only runs on Windows and Macintosh platforms.

### What kind of software do I need to create OEB documents? PDF?

OEB documents can be authored in any text editor or word processor that can handle plain ASCII (also known as "text") files. Examples of text editors include UltraEdit or WinEdt on the PC platform, BEdit on the Macintosh, and emacs or vi on Unix or Linux.

Commercial XML-specific authoring tools also

exist, such as XMetal, Emilé, and EditTime. Within the next one to two years, standard word-processing programs should be able to write XML files. Page-layout programs show some signs of following suit, although they will in all likelihood take a lot longer to handle XML effectively.

As yet, there are no OEB-specific authoring tools. It is possible, however, to use SoftBook's Personal Publisher to create OEB-compliant documents directly from Microsoft Word. (This process is not perfect; it will not, for example, create hyperlinks in your document.) Another possibility would be to use one of the many HTML authoring tools available, although the output of such tools will need some changes and should be parsed in order to ensure OEB compliance, since they probably are not programmed to produce clean, XML-compliant HTML.

Some word-processing, page-layout, and HTML-editing programs include "Print to PDF" functionality (e.g. TeX, Quark Xpress, PageMaker). Lacking that, PDFs must be created using specialized software by Adobe or Adobe's partners. Adobe's Acrobat software includes a plugin for Microsoft Word to allow direct printing to PDF, and the PDFWriter and Acrobat Distiller can be used with many other word-processing and page layout programs as well. It's best to use the Distiller rather than PDFWriter, and to embed fonts, when creating PDF. Those programs that have good-quality, built-in PDF export actually just automate the process of launching and using the Distiller.

#### **How can I convert from my word-processing or page-layout program to OEB? PDF?**

Many people are hoping for a push-button conversion to OEB from all sorts of word-processing and page-layout programs. This is barely possible for some formats, and only if text and some basic appearance characteristics are all that matter. Other formats (Quark Xpress in particular) are extremely poorly-suited to automated XML conversion.

The problem is that eBook capabilities, and the XML markup necessary to support them, go far beyond appearances. Push-button conversions cannot add intelligent markup, such as hyperlinking and complex structure-based markup, to a text; only humans can do that. Moreover, because appearances can be deceptive, push-button OEB conversion tools can and do make mistakes.

The search for the Ultimate Push-Button is likely to be in vain.

That said, conversion tools can do a lot of the drudgework, leaving the finishing touches for humans. SoftBook's Personal Publisher is an example of one such tool, and doubtless others will appear in short order as more reading systems support OEB files, and more publishers and publication outlets demand them.

Three tools currently available offer hope for those with content in Quark XPress. Quark has released Avenue.Quark, which facilitates conversion of Quark XPress documents to XML. Apropos Tool and Tool Development has released two tools. One is called XPress XML, described by Apropos as "an XML reincarnation of the XPress Tags filter." Another, somewhat more sophisticated, tool called RoustaboutXT converts Quark XPress documents to XML that is valid per Roustabout's own XML DTD; the resulting XML can then be changed as desirable to make OEB Documents. Roustabout also enables fine control of special characters and customizable element names.

Since Basic OEB Documents are based on HTML 4.0, conversion to HTML can be one way to get a head start on OEB conversion. Many word-processing and page-layout programs convert to HTML, or have available plugins that do. As with HTML authoring tools, conversion tools will produce HTML that is guaranteed to need cleanup, but at least much of the most repetitive work will be done.

As for PDF, if your authoring program does not have Print to PDF capability, check to see whether it can print PostScript. Adobe's Distiller program can convert PostScript to PDF. Other third-party software for PostScript-to-PDF conversion also exists, such as the open-source Ghostscript.

### **What are the relative advantages of PDF and OEB?**

*(Note: This section does not discuss digital rights management (DRM) issues. Adobe has without doubt been more responsive to these issues thus far than the authors and users of the OEB Publication Structure. Still, it is important to remember that file security is not really dependent on the file format; no format is inherently more or less secure than another. It is disingenuous, therefore, to compare PDF and OEB formats on*

*that basis, and this FAQ will not do so.)*

PDF is easier to create than OEB (leaving aside the issue of the many platforms PDF-generation software does not run on, and the issue of whether the resulting print-formatted pages fit a given viewing method). Conversion to PDF is a pushbutton process; working with OEB requires significant understanding of text markup, which has proven difficult for many authors and publishers who think in terms of the appearance of the printed page.

Display of OEB-formatted files, even with current-generation stylesheets, demonstrates the same deficiencies that Web designers have been complaining about for years: lack of sophisticated typography, lack of control of screen sizes and resolutions, and limited control of element placement on the screen. PDF performs much better in these areas, since it was designed to reproduce typography and page layout exactly. As stylesheet languages evolve, however, the gap is likely to narrow.

PDF is also far more effective for technical publishing and foreign-language publishing. There is no provision for complex mathematical or chemical equations in the OEB Publication Structure. Moreover, since the OEB Publication Structure does not require that all Unicode characters be displayed properly, reading systems have chosen not to do so, making publishing in non-Roman alphabets a difficult business. Finally, the OEB Publication Structure does not require much image display quality from compliant reading systems, meaning that grayscale (or even highly detailed line art) images can be essentially worthless on some devices.

In addition, the CSS support required by the OEB Publication Structure falls short even of that available on the World Wide Web. For example, it does not require that devices understand the hierarchical location of a tag in order to display it properly (that is, a device need not understand the difference between a paragraph at the top level of a document and a paragraph inside a list item). This is a damaging limitation, removing much of the advantage of the hierarchical structuring XML offers.

PDF files, however, are limited in equally important ways. Since they are so dependent on the concept of a paper page, they are difficult to resize without loss of legibility, and cannot

currently adapt to screens of different sizes (although Adobe is working on reflow capability). Moreover, PDF files can be somewhat brittle; if a necessary font is missing, for example, the carefully-designed display can quickly become visual garbage.

PDF support is still lacking on some computer platforms. Several UNIX platforms cannot read or author PDFs, and the PalmOS, which powers the popular handheld Palm Pilot device, has no PDF reader available (although one is in development).

OEB-compliant files are more durable than PDF files. If every single device and program for Open eBook Publication display were to disappear from the earth, OEB files would remain readable, since any text editor can handle them, and in short order any Web browser will be able to display them (and text editors and Web browsers have more uses than just working with OEB files, making them highly unlikely to vanish). If all PDF-display devices and programs were to disappear, a PDF file would be essentially useless without very elaborate and costly work to rescue and reformat the content.

This may seem a ludicrous scenario, but it has important implications for the longevity of eBook files. Display devices and programs evolve constantly; even in the short life of eBook reading systems, their capabilities have changed in many ways. In a sense, display devices and programs *do* disappear, when they become obsolete and are replaced. If your eBook data is to avoid obsolescence also, it must be as independent as possible, not relying on any one particular type of display device or program.

The authors of the OEB Publication Structure have committed themselves to backwards-compatibility, meaning that even when new versions of the Publication Structure are set forth, files coded according to the old rules will still be compliant (with one important exception). Adobe has made no such promise regarding PDF. Moreover, OEB files should be relatively trivial to upgrade in the future, as new capabilities become available on reading systems. PDF files created with old versions of Adobe software are not upgradable at all.

Because XML is an important technology outside as well as inside the publishing world, new authoring, conversion, display, and manipulation tools are constantly becoming available for it.

Many of these tools can be used in a publishing context, even if not originally intended for it. Soon (if not already), there will be far more XML tools than PDF tools, most particularly because XML and OEB are open (meaning that anyone can develop for them), and PDF is the property of Adobe (meaning that Adobe controls it and ultimately decides who may work with it, limiting the universe of possible developers).

### **Section 3: About OEB**

#### **What is the difference between an OEB Document and an OEB Publication?**

An OEB Document is one XML-coded piece of book text. There is no restriction on its size or on what portion of the book it represents. It could be a single chapter or an entire book.

An OEB Publication includes the marked-up text, all image and stylesheet files associated with it (as well as files of other types, when in use), and the OEB package file. In other words, the OEB Publication is the "whole book."

#### **How do I turn the multiple files of an OEB Publication into a single file for download into a reading system?**

The OEBF is aware of and working on this issue, but has not yet endorsed a solution. The current proposal can be read online at <http://www.nuvonmedia.com/oebf/>.

Until the OEBF adopts a solution and reading systems implement it, compilation and compression of multiple files into a single file is dependent on each individual reading system. The SoftBook uses Personal Publisher (available free) and Professional Publisher to create single files; the RocketBook uses RocketLibrarian (available free).

#### **How do I know that my OEB Publication conforms to the rules of the OEB Publication Structure?**

Since the OEB Publication Structure includes a DTD for Basic OEB Documents, it is possible to use a piece of software called a "parser" to check that such documents conform to the XML requirements of the specification. Any XML parser (several of which, most of them free, are currently available) can do this.



The Brown University Scholarly Technology Group and NuvoMedia have also made an OEB compliance checker, available at <http://www.stg.brown.edu/service/oebvalid/>, which checks for other requirements of the specification in addition to parsing the XML. This compliance checker functions for both Basic and Extended OEB Documents.

### **What is the difference between Basic and Extended OEB Documents?**

A Basic OEB Document sticks strictly to the XML tags and permitted structures mentioned in the OEB Publication Structure and laid out in the Basic OEB Document DTD. These tags and structures are drawn from the HTML 4.0 specification.

An Extended OEB Document either uses tags that are not mentioned in the OEB Publication Structure, or uses the mentioned tags differently from what is allowed in the Basic OEB Document DTD. Extended OEB Documents must include a CSS stylesheet that tells the reading system how to display any unfamiliar markup. Basic OEB Documents do not require a CSS stylesheet (although it is certainly permissible to use one).

### **How does coding Basic OEB Documents differ from coding HTML for a web page?**

In general terms, a lot of the sloppy practices that are accepted by Web browsers are not permitted by XML and OEB.

In particular:

- Some HTML tags are not supported. Appendix A of the Open eBook Publication Structure gives a table with the status of all HTML tags vis-a-vis the OEB Publication Structure.
- In XML, tags are case-sensitive; in HTML, they are not. <P> and <p> are the same tag in HTML, but two different tags in XML. The OEB Publication Structure, in line with other XML applications, requires that tags be all-lowercase.
- End-tags are not optional in XML. If you start a paragraph with a <p> tag, you must finish it with a </p> tag.
- Empty elements--that is, elements that do not contain any text and don't have end-tags,

such as `<img>` and `<br>` in HTML--must finish with a space and a slash before the final `>`. The slash is required by XML; the space is required by OEB, so that OEB-compliant coding can be displayed correctly by older, non-XML-aware web browsers. (Many browsers that do not know about XML's `/>` notation can still correctly handle tags containing the end-slash if there is a space before it.)

- Attribute values must be surrounded by quotation marks, something HTML does not require. The tag `<table border=5>` is acceptable HTML, but not acceptable XML or OEB; both require `<table border="5">`.
- Overlapping elements are not allowed in XML and OEB. Strictly speaking, they are not allowed in HTML either, but browsers do not generally choke on them. The coding

`<b>This is bold <i>and this is  
bold italic.</b></i>`

is incorrect; it should be

`<b>This is bold <i>and this is  
bold italic.</i></b>`

- Any ampersand (&) or less-than (<) characters used in the content of an OEB document must be represented in their character-entity forms (&amp; and &lt; respectively). This restriction ensures that the character `<` always signals the beginning of a tag, and the character `&` always signals the beginning of a character entity, making eBooks easier to process for reading systems.
- OEB-compliant eBooks must be packaged with an OEB package file, an XML file that describes the files that constitute the eBook, what order text files should be read in, and (optionally) suggestions for quick tours through the book or direct linkages to important reference sections such as glossaries and indices. The OEB package file has no direct relationship to anything in use currently on the World Wide Web.

It is worth noting that the W3C has reformulated HTML 4.0 as XML, calling the result XHTML. For the most part, any restriction true of XHTML will be true of OEB as well.

**Why should I use Extended OEB Documents at**

**all? Can't I just stick with Basic OEB?**

If you are satisfied with the look and behavior of Basic OEB Documents, there is no pressing reason to go further. The single exception to this is if you are using HTML tags and attributes that are deprecated in the Open eBook Publication Structure. If you want to keep such functionality, your wisest course is to replicate it using stylesheets, because features that are deprecated now may become unusable later.

Extended OEB Documents do offer some advantages. Stylesheets permit more control over the display of the eBook on reading systems than is possible with just markup. What is more, you can change the display simply by changing the stylesheet, without having to disturb the marked-up text at all. Also, HTML was never designed to represent the structure of books. XML, however, can be tailored to be representative and descriptive of your specific book. This can be significant if you have other uses in mind for your book (e.g. typesetting, content management, programmed transformations).

Of course, if you have content already in XML that you wish to use as an eBook, then creating a CSS for it is probably a good deal easier than transforming the markup to Basic OEB.

**Why is a DTD important? Can't an Extended OEB Document be coded without one?**

The XML specification allows for document markup that does not abide by a DTD, as long as they conform to basic XML rules of structure. Such documents are known as "DTDless" or "well-formed" documents. (XML documents that abide by a DTD in addition to being well-formed are called "valid.") In other words, XML does not require that the structure of a document be determined in advance of tagging it. Any OEB-compliant device will display a well-formed but not valid XML document as long as a CSS stylesheet that specifies display of unfamiliar tagging is included.

That said, abiding by a DTD, whether the Basic OEB DTD or another DTD, confers several advantages. One, already mentioned, is that documents tagged to conform to a DTD can be checked with a parser, ensuring that the tagging is accurate and conformant to the DTD. This can eliminate some tedious editorial tasks (such as

ensuring that different levels of heads are nested correctly). Another is that once a document conforms to a DTD, computer programs (such as XML editors, XML browsers, and eBook reading systems) can be designed to understand that particular DTD and deal with conformant documents quickly and easily.

### **What is an OEB Package File?**

*(Note to SGML purists: I am using wedges to delimit element names. I know this is not accepted SGML practice. For the less-experienced, however, it is convenient and quickly comprehensible. I am delimiting attribute names with square brackets.)*

The OEB package file is the guide to an OEB Publication. It is an XML file that conforms to the OEB Package File DTD, part of the OEB Publication Structure. The root (that is, top-level) element for a package file is the `<package>` element. This element must have a [unique-identifier] attribute that uniquely identifies the OEB Publication. (What system of identifier is used is up to each eBook author. The OEB Publication Structure mentions ISBNs and DOIs.) This unique-identifier attribute must correspond to the value of a `<dc:Identifier>` element (see below).

The OEB package file consists of four main parts, two of which are optional:

- The `<metadata>` element, which provides information about the publication as a whole (e.g. ISBN or other identifiers, author information, publisher information). The one element that is required inside `<metadata>` is `<dc-metadata>`, which must in turn contain a `<dc:Title>` element with the publication's title, and a `<dc:Identifier>` element containing a unique identifier for the publication. (More than one `<dc:Identifier>` element is permitted, allowing publishers to register their books under several identification schemes.)

The "dc" in these element names stands for Dublin Core, an emerging standard for publication metadata. Several optional Dublin Core elements are specified in the OEB Package File DTD; they are described in Section 2.2 of the OEB Publication Structure.

A minimal <metadata> element might look like this:

```
<metadata>
  <dc-metadata>
    <dc:Title>My eBook</dc:Title>
    <dc:Identifier scheme="ISBN">0-0000-0000-0</dc:Identifier>
  </dc-metadata>
</metadata>
```

- The <manifest> element, which gives a list of all the files (text, image, stylesheet, or other) in the publication. Each file must be listed in an <item> element, in which the [id] attribute gives an identifier for the file that is unique to that file within the publication, the [href] attribute gives the filename, and the [media-type] attribute gives the MIME type for the file.

MIME types for the core filetypes supported by the OEB Publication Structure are:

- o For text files: text/x-oeb1-document
- o For JPEG files: image/jpeg
- o For PNG files: image/png
- o For CSS stylesheets: text/x-oeb1-css

If a publication file is not of one of the above types, its <item> element must also contain a [fallback] attribute, whose value is the [id] attribute of a "fallback" file.

A typical <manifest> element would look like this:

```
<manifest>
  <item id="chap1" href="chap1.html"
media-type="text/x-oeb1-document">
  <item id="chap1fig"
href="chap1fig.png" media-
type="image/png">
  <item id="chap1movie"
href="chap1movie.mpg" media-
type="video/mpeg"
fallback="chap1movietext">
  <item id="chap1movietext"
href="chap1movietext.html" media-
type="text/x-oeb1-document">
</manifest>
```

As you can see, the above publication has one chapter, one image, and a video file with a text file for fallback.

Those who prefer to organize their files into separate folders must be careful that the [href] attribute also has the folder name for each file; they should also ensure that the package file lives at the top-level folder. If the HTML files are in a folder called "textfiles," while chap1fig.png is in a folder called "artfiles" and chap1movie.mpg is in a folder called "moviefiles," with all these folders inside a file called "myEbook," the <manifest> element should look like this:

```
<manifest>
  <item id="chap1"
href="textfiles/chap1.html" media-
type="text/x-oeb1-document">
    <item id="chap1fig"
href="artfiles/chap1fig.png" media-
type="image/png">
      <item id="chap1movie"
href="moviefiles/chap1movie.mpg"
media-type="video/mpeg"
fallback="chap1movietext">
        <item id="chap1movietext"
href="textfiles/chap1movietext.html"
media-type="text/x-oeb1-document">
      </item>
    </item>
  </item>
</manifest>
```

The package file itself should be inside the "myEbook" folder, but not inside any of its subfolders.

- The <spine> element, which gives a linear reading order for the text files. This element contains one or more <itemref> elements, each with an [idref] attribute whose value is the [id] attribute of the <item> element that should occur at this moment in the reading order.

While the <spine> element is required, and must contain at least one <itemref> element, it is not strictly necessary to use it to define a reading order. It is acceptable to have only one <itemref> element listed (as a jumping-off point) and to manage reading order from then on via hyperlinks.

The <spine> element for the above mini-eBook might look like this:

```
<spine>
  <itemref idref="chap1" />
</spine>
```

- The <tours> element, which is optional, is

intended to allow publishers to lead readers (or potential readers) quickly through points of interest throughout the publication. Section 2.5 of the OEB Publication Structure discusses this element fully.

- The <guide> element, which is optional, is intended as a list of important reference elements (such as tables of contents or illustrations, indices, title pages, and so on) within the publication. Section 2.6 of the OEB Publication Structure discusses this element fully.

**Since not every reading system in the eBook industry is OEB-compliant, what is the best way to code an eBook?**

As of March 2000, the SoftBook reader is supporting OEB documents (although a few lapses have been noted by SoftBook users), and NuvoMedia claims that the Rocket will do so sometime in the second quarter of this year.

**From a post to the TEN list by Clay White of Manuscript Ink:**

It's best to bang out clean OEB code first (using CSS stylesheets--preferably external). Try to put as much of the design and style as possible in the external style sheets, leaving the body of the document as clean X/HTML. Save these source files separately. Some day, these files will be good for publishing Rockets, SoftBooks, MS Readers, Peanut Readers, Glassbooks, etc.

Next, modify a set of the OEB files to the quirks of the SoftBook and publish the SoftBook edition.

To create a Rocket edition, strip out the XML declaration at the beginning of another copy of the OEB documents, trash the style sheet and any links to it, and replace any CSS style tags with appropriate HTML tags (i.e. bold, italic, etc). Publish and pray.

**Can OEB handle special characters and equations?**

OEB-compliant reading systems are required to

display a set of special characters that includes accented characters, monotonic Greek characters, common mathematical characters, publishing-related punctuation characters (such as en and em dashes), and a few other characters. The full list of these characters, along with their character entity and Unicode representations, is given in Appendix D of the OEB Publication Structure.

The OEB Publication Structure does not require that reading systems display all Unicode characters (which would permit the display of a vast number of world writing systems, ancient and modern), although it does require that unfamiliar Unicode characters not crash the device, and be signaled in some way (e.g. by a question mark) to the device user.

The OEB Publication Structure does not provide a native method of coding and displaying complex mathematical or chemical equations. The only way to do this in an OEB-compliant document is to typeset the equations and convert the typeset equations into image files.

**What does it mean when a tag or attribute in the OEB Publication Structure is "deprecated"?**

First, a bit of Web history: When HTML was first developed, it had very little concern for appearances, since it was intended for easy exchange of information rather than for attractive text display. When the World Wide Web caught on, though, HTML willy-nilly added many tags having to do with display. This annoyed many people who preferred that HTML be used, in the tradition of its parent SGML, to delineate structure rather than appearance. These people got busy designing stylesheet languages. Stylesheet languages, such as CSS and XSL, use the structure of the document (as defined by markup) to decide how to display it attractively without cluttering up the markup itself with design issues (which tend to be much less stable than structure, as anyone who designs and redesigns Web pages can attest).

As stylesheets caught on with Web browsers and designers (and they are still catching on), purely appearance-oriented features of HTML (such as [align] attributes and tags like <CENTER>) were "deprecated," meaning that while they probably worked in Web browsers, using them was not the best possible idea, since their functionality was now being replicated and improved upon by stylesheets.



The OEB Publication Structure deprecates or refuses to support everything that is deprecated in the HTML 4.0 specification (in addition to features of HTML that are irrelevant to eBooks, such as forms and programming hooks). Moreover, the Publication Structure states that deprecated features may not be available at all in future versions. If you use a deprecated feature, you use it at the risk that future reading systems may not be able to handle it.

#### **What is a fallback file, and when must I use it?**

The OEB Publication Structure specifies file types that compliant reading systems must handle properly:

- Well-formed XML files
- JPEG and PNG image files
- CSS stylesheet files (as long as they conform to the rules of the OEB Publication Structure)

This does not mean that other types of files are not permitted. To use a different kind of file (for example, a sound or video file), you must also include a "fallback file" that is of one of the permitted filetypes listed above. For example, the fallback for a video file might be a static image from the video in JPEG format; the fallback for a sound file might be the XML-coded text of the sound clip or a PNG image of the sheet music.

It is possible to have multiple fallbacks for a file, as long as at least one of the fallbacks is of one of the permitted file types. A video segment could have a fallback TIFF file, which could have a fallback JPEG file.

Fallback files ensure that no eBook will have parts that are completely un-displayable by any compliant device. Even if a particular device does not support video clips, someone using that device will have something to examine.

Fallbacks are listed as part of the OEB package file.

## **Section 4: Additional Resources**

On XML:

- Tim Bray's XML FAQ

- [Peter Flynn's XML FAQ](#)
- [Lars Marius Garshol's introduction to XML](#)

**On OEB:**

- [Home of the Open eBook Forum](#)

**On Dublin Core:**

- [The Dublin Core Metadata Initiative home page](#)

**On Unicode:**

- [The Unicode Consortium's home page](#)

**On XML authoring tools:**

- [The Buyer's Guide at xml.com](#)
- [Lars Marius Garshol's list of free XML tools](#)

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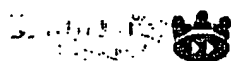




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## Open eBook Authoring Group Forms 'OEB Forum'

Wade Roush  
Posted Fri Jan 14, '00

The Open eBook Standards Initiative preaches the gospel of "convert once, publish anywhere" – in other words, the radical idea that all electronic books should be readable on all electronic book reading devices. The OEB Authoring Group recently finished the first version of its content formatting specifications, and now the group has signed up more than 30 organizations as members of a new industry forum charged with maintaining and spreading the standards.

The OEB Authoring Group says its specifications, which consist mainly of markup tags derived from XML and HTML, are intended to "give content providers and tool providers minimal and common guidelines which ensure fidelity, accuracy, accessibility, and presentation of electronic content over various electronic book platforms." Microsoft, NuvoMedia Inc., and SoftBook Press have all said that they are designing their next-generation eBook hardware and software to be OEB-compatible. The OEB Forum, announced yesterday, was created to ensure that other organizations do the same.

### NEWS ANALYSIS

This pattern is a standard one in high-tech industries. When a company peddling a new technology is struggling to get a foothold, it tends to push for its own solutions as the industry standard. But sooner or later, all of the competitors in a market niche such as electronic books are forced to acknowledge that cooperation is the key to the creation of a mass market. Consumers simply won't buy devices that lack interoperability



**Chat with Marketing Guru Seth Godin & Pick Up an Ideavirus**

The author of 'Unleashing the Ideavirus' talks with the eBookNet community all this week about strategies for spreading your ideas in the digital age. One lucky participant will win a Rocket eBook!



**eBookNet in the News**  
Access Magazine says "Clear graphics, regular updates and an informed editorial voice make eBookNet.com the closest thing electronic publishing has to the New York Times Book Review."



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**A Guide to Fall eBook Conferences**

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with other products in the same category. All VHS video tapes, for example, work in all VCRs. The competing technology (Beta) has all but disappeared.

In the area of communications protocols for electronic devices, established organizations such as the American National Standards Institute (ANSI) or the Institute of Electrical and Electronics Engineers (IEEE) are often the ones to take on the standard-keeping role. The IEEE's approval of the Ethernet packet switching standard in the early 1980s, for example, helped to standardize local-area networking protocols, creating space for computer-industry giants such as 3Com and Cisco Systems.

But eBook technology is so new and so consumer-oriented that industry players such as NuvoMedia, SoftBook, Microsoft, Adobe, and Everybook felt they needed their own organization, one designed to "catalyze the adoption of eBooks and stimulate the growth of this industry." The forum will be chaired by an impartial third party, Dr. Victor McCrary, who leads the Information Technology Laboratory at the National Institute of Standards and Technology (NIST).

The existence of an industry forum doesn't guarantee total conformance to the OEB standard, and the OEB Forum lacks any kind of enforcement power. But the number of organizations signing up as charter members is a strong sign that both producers of eBook content and makers of e-reading hardware and software perceive an advantage in sharing content across platforms.

The full OEBF press release follows.

### **Open Electronic Book Forum Formed to Develop Standards for E-Books**

**Washington, D.C. -- January 13, 2000 --** Representatives from over 30 companies and non-profit organizations met recently with members of the Open Electronic Book (OEB) Standards Initiative Authoring Group to facilitate the next step forward in promoting the growth of the electronic book industry. This meeting, held in mid-December in San

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Francisco, resulted in the formation of the Open Electronic Book Forum (OEBF).

At this historic meeting, a preliminary charter for the newly formed organization was composed and ratified; the OEBF will create and maintain standards to promote the successful adoption of electronic books. Charter members present elected an Interim Board to guide the organization in its nascent stages. Members of the Interim Board are: Dr. Victor McCrary, Group Leader, Information Technology Laboratory, of the National Institute of Standards and Technology (NIST); Bob Bruce, netLibrary, Inc.; David Ornstein, NuvoMedia, Inc.; Ben Trafford, Exemplary Technologies; George Kerscher, The Daisy Consortium; Judith McGuinn, Earlychildhood.com; and Amanda Kimmel, Random House, Inc. Chairing the Interim Board is Dr. McCrary; Bob Bruce will serve as Treasurer.

Other participants in the charter meeting include: Microsoft; IBM; peanutpress.com; SoftBook Press; Adobe Systems; The American Foundation for the Blind; R.R. Donnelly & Sons; Versaware, Inc.; Glassbook, Inc.; Red Figure, Inc.; SoftLock.com; InfiniteInk Corp.; Palm Computing, Inc.; FXPalo Alto Laboratory, Inc.; GlobalMentor, Inc; The Productivity Works, Inc; Helsinki University of Technology; EveryBook, Inc.; Handheld Media; Nokia, Simon & Schuster, Inc.; Hewlett Packard Co.; Overdrive Systems; NLS/BPH, Library of Congress; and RightsMarket.com, Inc.

McCrary comments, "The creation of the Open Electronic Book Forum is an important step for the e-book industry and significant in the number of companies and organizations which are working together to develop and to support common standards for e-books. These common standards will benefit creators of content, makers of reading systems and, most importantly, consumers. We anticipate the standards work of the Forum will help to catalyze the adoption of e-books and stimulate the growth of this industry."

Formation of the OEBF continues the year-long effort of the Open eBook Authoring Group. Its purpose was to develop a specification for electronic content, based on



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existing standards, that allows such content to be viewed over reading systems on various devices and platforms, while still guaranteeing fidelity and accessibility of that content. The Open eBook Publication Structure is a specification which enables content providers to convert once and publish anywhere. This specification was introduced by the Authoring Group at Electronic Book '99, the second annual workshop sponsored by NIST in Gaithersburg, Maryland in September 1999. The OEBF is now accepting applications for membership in the new organization.

Persons or companies interested in joining the OEBF should contact OEBF Treasurer Bob Bruce at [memberadmin@openebook.org](mailto:memberadmin@openebook.org). All other inquiries about the OEBF may be directed to Victor McCrary at [info@openebook.org](mailto:info@openebook.org) or by visiting the OEBF website at [www.openebook.org](http://www.openebook.org).

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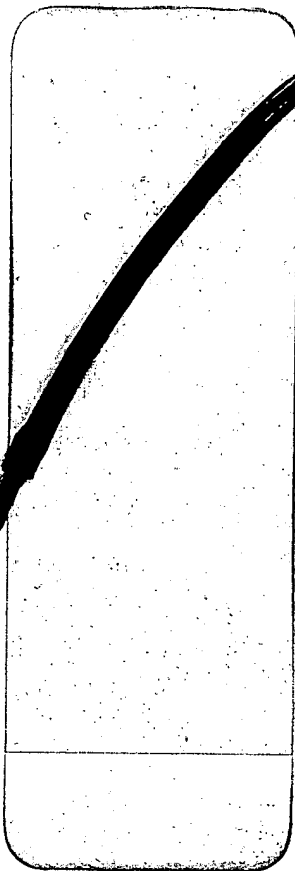
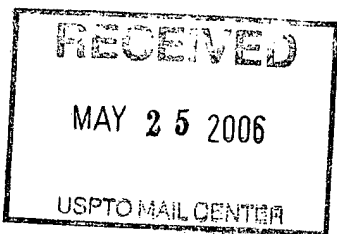
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